S.C. DOZIMED S.R.L.

DOSIMETRIC MONITORING SERVICES

PANASONIC THERMOLUMINESCENT DOSIMETERS

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Modern technology, used in most European individual dosimetry laboratories. Thermoluminescent dosimeters are currently used in most EU countries for individual dosimetric monitoring.

The detectors are made of tissue equivalent material: the thermoluminescent crystals used (LiB407) have $Z_{efectiv}$ close to the human tissue which leads to a significant improvement in personal equivalent dose ratings.

Detector type: - 2 elements: Li2B4O7: With phosphorus equivalent tissue;

- 2 elements CaSO4: Highly-sensitive Tm phosphorus

Easy use of dosimeters:

• The thermoluminescent dosimeters represent a unitary system, composed of 4 thermoluminescent crystals embedded in a special cassette. The analysis of the 4 detectors provides information about average energy and irradiation angle.

• Very low dose values can be determined: minimum detection limit of the thermoluminescent system is much lower (by 40 - 70%, depending on the field of use) than that of the film dosimeter. The possibility to determine very low doses, starting at 0.03 mSv, leads to a reduction in cumulated doses over one year.

• Increased accuracy of measurements made, due to much lower energy dependence of the response of the thermoluminescent dosimeter compared to film badge (up to 20% for thermoluminescent dosimeters, compared to about 2000% for film dosimeters!)

• The information is read and deleted within a single readout-deletion cycle, by passing through the reader only once. There is no risk that the dosimeter is sent to the customer without deleting the previously gathered information.

• Different colors for consecutive months: thermoluminescent dosimeters are sealed in special bags, labeled with the name of the occupationally exposed individual and the unique identifier of the dosimeter.

• Elimination of the risk of contamination of dosimeters: sealing dosimeters leads to avoidance of contamination with various radioactive substances (in the case of nuclear medicine laboratories or research laboratories), dust, chemicals, etc.